

REMARKS

The Final Office Action mailed September 27, 2007 has been received and reviewed. All claims currently under consideration stand rejected. The application is proposed to be amended as previously set forth. All amendments and claim cancellations are made without prejudice or disclaimer. No new matter has been added. Reconsideration is respectfully requested.

A. 35 U.S.C. § 112, 2nd ¶:

Claims 12 and 17 were rejected as assertedly being indefinite due to typographical errors. Applicants have adopted the Examiner's proposed claim corrections, which should overcome the rejections.

B. 35 U.S.C. § 102(b):

Applicants thank the Examiner for withdrawal of the 35 U.S.C. § 102(b) rejection.

C. 35 U.S.C. § 103:

"Claims 12 and 13" (presumably, 17) were newly rejected as assertedly being obvious by Taniguchi *et al.* in light of Funakoshi *et al.* and Tamachi and in view of Golbus. Applicants respectfully traverse the rejection.

It is respectfully submitted that the claimed kit and reagent mixture are not obvious in view of the combination of the references since, *inter alia*, a *prima facie* case of obviousness has not been established with respect to these claims.

To establish a *prima facie* case of obviousness, the cited prior art references, when combined, must teach or suggest all of the claim elements. *In re Royka*, 490 F.2d 981, 985 (CCPA 1974); *see also* MPEP § 2143.03. Additionally, there must be "a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed. *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1742, 167 L.Ed.2d 705, 75 USLW 4289, 82 U.S.P.Q.2d 1385 (2007). Further, to establish a *prima facie* case of obviousness, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). Underlying the obvious determination is the fact that statutorily prohibited hindsight cannot be used. *KSR*, 127 S.Ct. at 1742.

Claims 12 and 17 recite generally a first antibody reactive with hemoglobin F of a red blood cell, and a second antibody reactive with carbonic anhydrase B of a red blood cell, and wherein said first and second antibodies each comprise a label for detecting reactivity of the first and second antibodies with cells by flow cytometry.

The Office relies on Funakoshi *et al.* and Tamachi to evidence that Taniguchi discloses the use of antibodies.

First, an indication of the level of ordinary skill in the art has not been set forth as is specifically required by the Office.

Second, and as noted by the Office, Taniguchi fails to teach detectably labeling antibodies for use with flow cytometry. Golbus does not disclose using flow cytometry with labeled antibodies for carbonic anhydrase B. Thus, the references, even if combined do not teach or suggest all the element of the claims.

The references just do not provide a reason why flow cytometry would be used for both antibodies reactive with hemoglobin F and antibodies reactive with carbonic anhydrase B. *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1742, 167 L.Ed.2d 705, 75 USLW 4289, 82 U.S.P.Q.2d 1385 (2007) (There must be "a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed.)

It is not enough for the Office to allege that labeling antibodies is well-known in the art. There must be a reason to build the claimed reagent mixture and a kit with antibodies reactive with hemoglobin F and antibodies reactive with carbonic anhydrase B labeled for detection with flow cytometry. Golbus does not provide that reason. Golbus relates to, *inter alia*, recognition of fetal nucleated erythrocytes from maternal cells in a blood sample from a pregnant woman. Taniguchi, on the other hand, relates to testing the effects of lead on the red blood cells of adult males. Given the differences in the experiments, it would be improper to extrapolate from Golbus that flow cytometry may be used for both antibodies reactive with hemoglobin F and antibodies reactive with carbonic anhydrase B. Thus, a *prima facie* case of obviousness has not been established for these further reasons.

Accordingly, the rejections should be withdrawn and the application passed to issue.

D. New Claims

Claims 21 and 22 are directed towards antibodies reactive with carbonic anhydrase A. Support for the claims may be found throughout the as-filed specification, such as at paragraphs [0014], [0022], and [0023]. Claim 23 is directed towards an inhibitor of carbonic anhydrase. Support for this claim may be found in paragraph [0016] of the as-filed specification. Claim 24 is directed towards oligodeoxynucleotide probes complementary to a stretch of carbonic anhydrase. Support for this claim may be found in paragraph [0017] of the as-filed specification.

D. Rejoinder

Applicants request rejoinder of the withdrawn method claims upon allowance of the product claims, pursuant to M.P.E.P § 821.04(b).

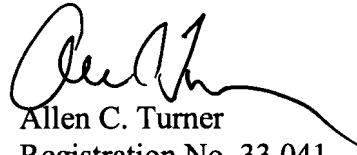
E. Entry of Amendments

Applicants' amendments are those to propose amendments to claims 12 and 17 to correct typographical errors. The amendments to claims 18 and 19 merely cancel claims. The new claims claim similar subject matter with carbonic anhydrase A rather than B. Entry of the amendments is respectfully requested. The foregoing arguments with respect to obviousness were not earlier presented as claims 12 and 17 had not been earlier rejected under these grounds.

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If questions should remain after consideration of the foregoing, the Office is kindly requested to contact applicants' attorney at the address or telephone number given herein.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Allen C. Turner', with a long horizontal flourish extending to the right.

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